

Knowing Is Half the Battle: Political Information Sources and Public Awareness of California Ballot Propositions

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Abstract

Recent research on whether the medium matters has failed to determine conclusively whether particular types of free or paid media sources have greater influences on the mass public than others, in part due to a variety of methodological challenges. In this paper, I capitalize on a natural experiment in order to compare the effects of newspaper coverage, political advertising, and a state-issued informational pamphlet on voter awareness of California ballot propositions leading up to the March 2000 election. The results demonstrate that all three information sources had measurable effects on citizens' awareness that specific propositions were on the ballot, with newspaper coverage having the strongest influence.

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Research into whether the ‘medium’ matters – if certain types of information sources affect public information and opinion more than others – has to date yielded frustratingly inconclusive results. Yet the amount of money and energy spent by political campaigns on advertising and attempts to shape news coverage indicate that political professionals truly believe that both paid and free media matter in determining public knowledge and attitudes. I begin this study with an overview of the state of literature on the differential effects of information sources. I then present the design of the present study, which draws on a natural experiment in which California voters were exposed to different levels of newspaper coverage and political advertising about an upcoming set of ballot propositions depending their media market during the March 2000 election cycle. I also take into account the availability of the ballot pamphlet mailed to all voters by the California Secretary of State. The results indicate an influence for each of the three information sources that is more consistent across propositions than any of the included control variables. It appears, however, that newspapers and the ballot pamphlet tended to have a stronger effect than advertising for most propositions. The conclusion draws implications for the comparison of information sources and the influence of paid and free media in proposition elections and in general.

1 Political Information and Public Awareness

Each year political campaigns spend millions of dollars on public-relations efforts, advertising, and related expenses in order to inform the public and shape citizens’ opinions. Yet political behavior scholars continue to struggle to determine if and how political communication influences the mass public. Fifteen years ago, Larry Bartels called research on media effects “one of the most notable embarrassments of modern social science” (Bartels 1993, p. 267). Since that time, methodological and theoretical advances have resulted in a consensus that the media and advertising do matter (at least minimally) and a shift towards specifying the various forms these effects take, such as the much-debated question of whether negative advertising mobilizes or demobilizes citizens (e.g. Ansolabehere, Iyengar, Simon & Valentino 1994, Finkel & Geer 1998, Freedman & Goldstein 1999, Kahn & Kenney 1999, Wattenberg & Brians 1999, Goldstein & Freedman 2002).

One question that has been the topic of much research is if the medium matters. In other words, is there some distinction between news and advertising, or between print and broadcast media, that leads some sources to have greater effects on the public than others? Beginning with Patterson & McClure’s (1976) assertion that citizens learn more from political advertising than from news programming, researchers have attempted to parse out the relative effects of newspaper coverage, political advertising, local and national television news programming, and, in recent years, the internet. The results have been quite varied, with studies that argue for the primacy of advertising over broadcast or print news (West 1994, Brians & Wattenberg 1996), television news over advertising (Chaffee, Zhao & Leshner 1994, Zhao & Chaffee 1995), newspapers over television news (Druckman 2005), television news over newspapers (Neuman, Just & Crigler 1992, Shaw 1999), broadcast and print news over the internet (Eveland, Seo & Marton 2002), and broadcast and internet news over traditional print media (Norris & Sanders 2003).

These inconsistent findings are likely to be due in part to a number of method-

ological challenges presented by this line of analysis. Researchers in this area, and those who study media effects in general, have vacillated between observational studies that, often out of necessity, rely on imperfect measures of the information environment and citizens' exposure to it, and experimental designs that offer valid measurement but evoke questions about external validity. Prior to the widespread availability of newspaper and television news content on the internet and the use of tracking data that allowed for the pinpointing when and where political advertisements aired, scholars relied largely on self-reported media use and recall of political advertisements (e.g. Chaffee, Zhao & Leshner 1994, Zhao & Chaffee 1995, Brians & Wattenberg 1996) or data about ad buys (Ansolabehere, Iyengar & Simon 1999, Shaw 1999) to measure exposure. Self-recall measures have been pointed to as particularly problematic, with Price & Zaller (1993) arguing that individuals may not accurately recall their own usage, and that questions asking them to do so often combine sources that are not equivalent (e.g. asking about newspaper usage without distinguishing between local papers and the *New York Times*). In addition, Iyengar & Simon (2000) note that recall is endogenous with attitudes; for example, people who are more interested in politics are both more likely to recall reading newspaper coverage of an election and more likely to be informed about it, regardless of the effect of the media on their levels of information. In terms of gauging advertising exposure in particular, Ridout, Shah, Goldstein & Franz (2004) directly compared six approaches and found that the most valid measures combine geocoded data about which ads aired when with survey questions that asked individuals specific questions about television viewing habits.¹ Unfortunately, most researchers have not had access to all of the data needed to utilize such measures.

Some scholars have attempted to overcome these problems through the use of experimental designs (e.g. Eveland, Seo & Marton 2002, Norris & Sanders 2003). Experimental studies take care of measurement issues through the investigator's control over subject's exposure to political information, yet present a different issue: external validity (Bartels 1993, Wattenberg & Brians 1999). More specifically, most experiments do not take place in a setting that resembles one in which people typically consume political information, calling into question the applicability of the results beyond a laboratory setting. On the other hand, some media-effects researchers have taken advantage of field and natural experiments, or experiments that take place as part of participants' daily lives, either due to intervention by the researcher or not. Examples of such work include Mondak's (1995*a*, 1995*b*) comparisons of the levels of information of Cleveland and Pittsburgh residents during a eight-month newspaper strike in the latter city, and Gerber, Karlan & Bergan's (2006) awarding of free subscriptions to the *Washington Post* or *Washington Times* to voters in the Washington, D.C. area in order to look at the effects of newspaper's editorial slants on readers. Such designs, when feasible, have much to offer as they combine internally valid measures of exposure with externally valid results.

Another methodological issue complicating the comparison of different information sources is the choice of dependent variable. Although many media- and advertising-effects studies focus on dependent variables related to persuasion (e.g. Bartels 1993,

¹Ridout et al. provide three options: asking about media use at different times of day, asking about viewership of specific genres of programs, and a 'five-program' measure that in which individuals were asked about their exposure to the five types of programs during which most ads air. Correlations were at or above 0.98 for the three measures.

West 1994, Brians & Wattenberg 1996, Dalton, Beck & Huckfeldt 1998, Shaw 1999, Gerber, Karlan & Bergan 2006), Iyengar & Simon's (2000) assertion that this outcome has been the primary focus of research has become less accurate in recent years. Persuasion is notably difficult to measure given the dominant role of political predispositions in this process (Zaller 1992), leading many scholars to look at alternative outcomes such as voter turnout (Ansolabehere et al. 1994, Finkel & Geer 1998, Freedman & Goldstein 1999, Kahn & Kenney 1999, Wattenberg & Brians 1999, Goldstein & Freedman 2002) and knowledge of party or candidate issue positions (e.g. Chaffee, Zhao & Leshner 1994, Zhao & Chaffee 1995, Brians & Wattenberg 1996, Norris & Sanders 2003, Drew & Weaver 2006). These types of dependent variables offer more straightforward tests for information effects since they are less tied to interactions between the content of the information and individuals' preexisting attitudes.² In addition, non-persuasion outcomes are particularly valuable when comparing across information sources, since crafting cross-source measures of the direction or bias of content can become complicated quickly.

In this paper, I present a comparison of information sources in a context that presents many advantages for for such an investigation: a California ballot proposition election. As Bowler & Donovan (2002) point out, it should be easier to tease out information effects in this type of election given the weaker presence of political cues, such as partisan identification. In addition, proposition elections allow one to take advantage of the natural experiment created by the variability in information among media markets. California proposition elections have become high-profile affairs that attract media attention and significant advertising buys, yet these information sources are not distributed equally across the state.³ I pair information about three sources – newspaper coverage, advertising, and the ballot pamphlet distributed by the state to all voters – with individual-level factors such as level of education and political ideology in order to test whether the medium does, in fact, matter.

The dependent variable used here is awareness of a proposition. As discussed above, opinion formation and change are particularly difficult to measure. In contrast, the use of awareness offers a simple test: either a voter has heard something about a proposition, or s/he has not. It is difficult to believe that predispositions would lead someone to not accept information about the presence of a proposition on the ballot, and general political interest can be controlled for statistically. In addition, awareness is a key step in the lead-up to a proposition election; Bowler & Donovan (1994) point out that before citizens can make up their minds about a proposition, they have to know what there is a choice to be made. In addition, much as voters will often stick with a known incumbent over an unknown challenger, those unaware of a proposition will tend to vote 'no' in order to maintain the status quo (Bowler, Donovan & Happ 1992). Previous investigations of the factors in voter awareness have pointed to self-reported use of information sources (Bowler & Donovan 2002), campaign spending (Bowler & Donovan 1998, Nicholson 2003), coverage on the front page of the *Los Angeles Times* (Nicholson 2003), the issue and election types and issue type (Nicholson 2003), and

²It is unlikely that absolutely no interaction occurs, however. For example, citizens may pay more attention to, and thus acquire more information from, stories or ads about candidates belonging to the political party with which they identify.

³See Stratmann (2006) for a similar design focused on aggregate vote outcomes in California proposition elections.

the number of days remaining before the election (Magleby 1989, Bowler & Donovan 1994, Nicholson 2003).

To date, however, no one has investigated how the entire information environment – as measured directly rather than indirectly – shapes public awareness of propositions. The hypothesis offered here is straightforward: increased exposure to information about a proposition in any of the three information sources (newspaper coverage, television advertising, or the ballot pamphlet) will lead to greater awareness of that proposition. Given the unclear results offered by previous research, no prior assumption is made that one type of source will matter more than the others. Yet through this investigation, I hope to shed light both on the specific processes behind informing the public about ballot propositions, and the ongoing debate about the differing effects of information sources.

2 Data and Method

This study focuses on eight propositions that were on the ballot in California for the March 7, 2000 election. Although the public voted on 21 propositions in this election, polling data were only available for the eight listed below:

- **Propositions 12/13:** Combined, these propositions would provide over \$3 billion in bonds to protect land, improve water and air quality, preserve open space, improve parks, and protect against floods.⁴ (Prop. 12 passed 63 percent/37 percent, Prop. 13 passed 65/35)
- **Proposition 21:** Would make a variety of changes to juvenile and adult criminal law, including requiring more juvenile offenders to be tried in adult court, increasing penalties for gang-related crimes, and increasing prison sentences for certain other crimes. (Passed 62/38)
- **Proposition 22:** Would add a provision to the Family Code stating that only marriage between a man and a woman is valid in California. (Passed 61/39)
- **Proposition 23:** Would allow voters to cast a ballot for ‘none of the above’ in most state and national candidate elections. (Failed 36/64)
- **Proposition 25:** Would limit campaign contributions and increase public funding of campaigns. Would also require the listing of top contributors to propositions in the state ballot guide. (Failed 35/65)
- **Proposition 26:** Would allow school bond measures to pass with a majority (rather than 2/3) of the local vote. Would also impose new school accountability requirements and restrictions on the use of school bond funds. (Failed 49/51)
- **Proposition 28:** Would repeal Proposition 10 (passed in November 1998), which increased taxes on tobacco products in order to fund county level early childhood programs. (Failed 28/72)

⁴These propositions were frequently paired in advertising and media coverage. The polls used here asked only about Proposition 12, but advertising data have been pooled for both propositions due to the likelihood of a close association between the two in the minds of the public. For reasons discussed below, search terms for newspaper coverage only included Proposition 12.

- **Propositions 30/31:** Proposition 30 would restore the right to sue another person’s insurer for unfair claims settlement practices unless the insurer agrees to arbitration. Proposition 31 would amend the legislation proposed in Proposition 30 by placing some limitations on the right to sue and exempting specified insurers under certain circumstances.⁵ (Prop. 30 failed 32/68, Prop. 31 failed 28/72)

Public awareness of these propositions was measured using data from the California Field Poll. The Field Poll conducted six surveys during the year leading up to the March 2000 election; here, I use the last three surveys, which were conducted in the first half of December 1999, the first week of February 2000, and the last week of February and first week of March 2000.⁶ It is important to note that the Field Poll did not ask every respondent about all eight propositions. Questions about Propositions 21 and 30/31 were only included in the two February polls. In addition, for all three survey dates, the Field Poll only asked likely voters (defined as those who said they would ‘definitely’ vote in the upcoming elections) questions about propositions. Finally, in the two February polls, respondents were divided into two forms, with half of the sample asked about Propositions 12 and 21,⁷ and half asked about Propositions 23 and 25. All respondents were asked about the other four propositions. As a result, respondents were asked about six (and in some cases seven) propositions rather than all eight.

The questions about awareness in the Field Poll are straightforward, although the wording changed slightly between the December 1999 poll and the other two surveys. Below are the questions asked about Proposition 22 – wording for the other propositions followed the same format:

- **December 1999:** “Have you seen or heard anything about a statewide initiative, Proposition 22, that will appear in the March 2000 California election, called the Limit on Marriages initiative?”
- **February and February/March 2000:** “Have you seen or heard anything about Proposition 22, called the Limit on Marriages initiative, or not?”

Respondents who stated that they were aware of the proposition were assigned a 1 for the awareness variable, while those who were not aware or said that they were unsure or did not know were assigned a 0. Figure 1 shows how the dependent variable varied across propositions and time.

[Figure 1 about here.]

The public showed very little awareness of any propositions in December 1999, with 15-30 percent of voters able to say that they had heard anything about the propositions. After this point, however, there is a clear divergence in awareness. Propositions 22 and 30/31 show the highest levels of awareness, while Proposition 23 remains relatively

⁵A single poll question was asked in order to gauge awareness of both of these propositions. As with Propositions 12 and 13, advertising data were pooled for Propositions 30 and 31. In addition, newspaper coverage was pooled for these propositions.

⁶Earlier surveys were not included because of the difficulty in obtaining newspaper data for some markets, as discussed below. In addition, only two propositions – 22 and 23 – were included on all six surveys.

⁷In the late February/early March poll, all respondents were asked about Proposition 21 starting on the seventh day the poll was in the field, February 28.

unknown even in the days just prior to the election. As I demonstrate in this paper, some of these differences in public awareness can be attributed to the amount and type of information available to voters.

To measure the information environment, I drew on three different sources. First, to measure political advertising, I used data from the Wisconsin Advertising Project (WiscAds). In 2000, WiscAds tracked political advertising in the nation's top 75 media markets, including five in California (listed by market size): Los Angeles, San Francisco/Oakland/San Jose, Sacramento/Modesto/Stockton, San Diego, and Fresno/Visalia.⁸ In the WiscAds dataset, each case is an individual ad airing, allowing one to know not only whether an ad aired but also when and how often it appeared. As a result, I was able to gauge exactly how many ads appeared in each media market on each day of the election cycle.

The WiscAds data also include the cost of each ad airing, which I use as a proxy for audience size, with the assumption that more expensive ads are likely to reach more people.⁹ Given that it is likely that television airtime costs much more in Los Angeles than it does in Fresno, I standardized the ad costs within each media market and then rescaled the standardized variable so that it had a mean of 1 and a standard deviation of 0.34. In other words, an ad with an 'average' cost for a specific media market was assigned a 1, while those that cost less were weighted less heavily and those that cost more given additional weight. In the statistical models, I use the cumulation of the weighted measure up to the day before the survey date for the advertising variable (rescaled so that a one-point increase is equivalent to 10 additional ads), while in the graphs I use the cumulation of the non-weighted, not rescaled counts for greater clarity.¹⁰

To gauge local media coverage, I used the top newspaper in each media market: the *Los Angeles Times*, the *San Francisco Chronicle*, the *Sacramento Bee*, the *San Diego Union-Tribune*, and the *Fresno Bee*.¹¹ For the San Francisco, San Diego, and Fresno papers, full-text content was accessed via Lexis-Nexis. Los Angeles and Sacramento coverage was not available for this time period via Lexis-Nexis, so I used each paper's online archive. Unfortunately, both of these papers charge a substantial fee to look at the full text of each article. As a result, for all newspaper sources, the first day of the search was October 29, when the Secretary of State assigned numbers to the propositions, and the search consisted only of the number of the proposition. For

⁸It is important to note most of these media markets cover multiple counties and both rural and urban areas. For example, the Los Angeles market is comprised of not only Los Angeles County and suburban areas such as Orange County, but also many of the desert counties bordering Nevada. The one exception is the San Diego market, the boundaries of which match the San Diego County line. Combined, these five media markets serve about 30 percent of California's residents.

⁹Of course, the cost of ad slots are also tied to what type of people are watching a particular program due to companies' attempts to reach desirable market segments. Unfortunately, audience points are not available as part of the WiscAds dataset, making ad cost the best available measure of audience size

¹⁰The correlation between these measures is 0.99.

¹¹Newspaper coverage is admittedly an imperfect proxy for all local news coverage, particularly given the dominance of local television news in many citizens' political media repertoires. However, newspaper stories are the best measure given available data. In addition, Druckman (2005) shows that local television news and local newspapers differ primarily in terms of quantity rather than content of coverage, so one can make the assumption that local television outlets were providing similar information, although less frequently.

example, for Proposition 25, the search was “‘proposition 25’ OR ‘prop. 25.’”¹² All articles that came up in the search were counted as coverage of that proposition. This method allowed for a uniform search across newspapers, although it is likely that some articles were not captured if they mentioned a proposition by topic rather than by number.¹³ As with television ads, for newspaper stories I use the cumulation of stories in each media market up until the day before the survey date.

Figures 2 through 8 show just how much the information environment differed depending on the proposition and the media market. Two propositions – 21 and 23 – had no advertising associated with them (Figure 8), although Proposition 21 received a fair amount of newspaper coverage. In contrast, massive amounts of ads were aired about Propositions 30 and 31, while journalists paid very little attention to these measures. Most propositions were associated with some advertising and newspaper coverage, although the Fresno market lagged in both measures across all propositions. Other outliers included heavy newspaper coverage of Proposition 22, particularly in Los Angeles, higher levels of advertising regarding Proposition 26 in Los Angeles, and greater newspaper coverage of Propositions 25 and 26 in Sacramento. Looking across all graphs, it is clear that members of the public were exposed to very different levels of advertising and local media coverage depending on the proposition and the media market.

[Figures 2 through 8 about here.]

The final informational measure employed here does not vary across propositions or media markets: the distribution of the ballot pamphlet. Before each election, the California Secretary of State mails a booklet to every registered voter that describes each aspect of the ballot in detail. For propositions, this information includes a short summary, an assessment of costs, statements by those in favor and against, and the full text of the proposition. The California Elections Code states that this pamphlet must be mailed starting 40 days prior to the election, with distribution complete 21 days prior. In terms of the March 2000 election, this means that the pamphlet was mailed between January 27 and February 15. Unfortunately this time span encompasses the entire early February polling period, and there is no way to gauge whether respondents had received their pamphlet by the time they participated in the survey or not. As a result, all individuals in the early February and late February/early March polls were given a 1 for the pamphlet indicator, while those who took part in the December survey were given a 0.

A number of additional independent variables were also included as controls in the models. Most important among these is years of education, which here serves as a proxy for general political sophistication and awareness. Unfortunately, the Field poll does not ask about media use, attention to politics, or knowledge of politics, making education the only suitable measure. Other controls include party registration (measured

¹²For Propositions 12/13, only Proposition 12 was searched for due to the ongoing media presence of 1978’s Proposition 13, which greatly reduced property taxes. For Propositions 30/31, both propositions were included in the search.

¹³A comparison of the results a full-text analysis of the three papers on Lexis-Nexis reveals that while the level of coverage is slightly different, the shift is the same across markets within each proposition. The one exception is Proposition 22 in San Francisco, where the need to start the search in late October did not allow me to capture the moderate coverage of this proposition that occurred prior to this point.

by indicators for Democratic or Republican registration,¹⁴ political ideology (measured in separate two-point scales for liberal and conservative), income (in thousands of dollars), age (in years), sex, and race/ethnicity (Hispanic, African American, Asian, or other race, with white as the omitted category).

Two types of models were estimated. In the first, each response to a proposition question was treated as a separate observation. In other words, if an individual was asked if they were aware of six propositions, there would be six observations in the dataset, one for each proposition. These observations were then matched to the total amount of advertising (using the measure weighted by ad cost described above) and newspaper coverage of that proposition in the respondent’s media market up until the day before the survey interview took place. Probit estimation was used to determine which factors most influenced awareness of the propositions, with proposition-specific indicators also included in the model. Standard errors were clustered by the respondent to account for any correlation in the errors, and observations in all models were weighted using the weights provided by the Field Poll. In addition to this overall model, I also estimated separate probit models for each proposition. This allows for a confirmation that the results of the general model are not due to a single outlier proposition and allows for a look at how the influence of each type of information differed depending on the proposition.

3 Results

Table 1 presents the results of the model that included responses on all propositions. The coefficients for all three information measures – advertising, newspaper coverage, and the ballot pamphlet – are statistically significant and positive. Comparing the newspaper and advertising coefficients, it appears that a single newspaper story has a notably larger effect than ten advertisements do. The large size of the pamphlet coefficient also indicates a substantively significant effect. Yet there are still proposition-specific differences beyond media coverage, given the statistical significance and magnitude of the proposition indicator variables.¹⁵

In terms of other independent variables, years of education has the expected statistically significant and positive effect on awareness.¹⁶ Neither party registration nor political ideology had an effect on awareness, save for a slightly stronger awareness among liberals. The coefficients for the remaining independent variables are in line with expectations, with older voters, men, and white and Asian individuals showing higher levels of awareness.

It could be the case, however, that the results in Table 1 are driven by only a few propositions, particularly those that are outliers in either advertising or newspaper coverage. To test for this possibility, initial model was reestimated for each proposition,

¹⁴The Field Poll does not include a measure of partisan identification, only a party registration question, so it is likely that there are a higher number of people coded as independents than one would find otherwise.

¹⁵Proposition 23 is the omitted category.

¹⁶Interacting a dichotomous measure of education with the information variables yielded a statistically significant positive coefficient for newspaper articles but not advertising or the ballot pamphlet. However, it appears that these results were driven primarily by two propositions – 12 and 25 – and thus the model is not discussed in depth here.

leading to the results in Table 2.¹⁷ Looking across the coefficients for advertising, one finds statistically significant and positive results for all propositions except for Proposition 12, which had a lower level of advertising of any proposition aside from 25. The magnitude of the coefficients are all quite small except for Proposition 25, for which it appears that exposure to advertising had a notable effect.

The results are similarly consistent across propositions in terms of newspaper coverage, except for Propositions 22 and 30/31, which do not have statistically significant coefficients. Notably, these propositions had the most skewed information environments, with Proposition 22 receiving an extremely high volume of newspaper coverage but almost no advertising, and Propositions 30/31 serving as the topic of a very high number of ads but very few newspaper stories. For the latter, the findings make sense, as advertising was clearly the dominant source of information on these propositions. However, the findings for Proposition 22 are somewhat more puzzling. Perhaps it is the case that all of the media markets, with the exception of Fresno (although there Proposition 22 received more coverage than any proposition except 26), had such a high level of newspaper coverage on this propositions that there was a lack of meaningful variation in this variable. In other words, it may be possible that beyond a certain level of newspaper coverage, additional stories have no effect on awareness, and that all markets reached this ceiling.

This hypothesis receives some support from the coefficient for the ballot pamphlet in the Proposition 22 model. The magnitude of this coefficient is much larger than it is for any other proposition. Recall that all respondents in the two February surveys were assigned a 1 for this variable as it was impossible to determine whether participants in the first February poll had received their pamphlets or not. It may be that the pamphlet indicator for this proposition is picking up both the distribution of the pamphlet and the dividing line between the minimal coverage before the December survey and the very high coverage experienced by participants in later polls. In contrast, advertisements about Proposition 22 did not air until after the first February poll, meaning that there was still significant variation in this variable within the time that the pamphlet was available.

As for the other propositions, the ballot pamphlet indicator was statistically significant, but lower in magnitude, in all other models except the one for Proposition 25. Interestingly, the coefficients for the three information sources are the most consistently significant. None of the ideological/partisan or demographic variables show a notable pattern across all models, which gives much credence to the notion that the information environment is a central factor in citizens' awareness of ballot propositions. Most strikingly, education – the proxy for political awareness – is only statistically significant in half of the models.

Although Tables 1 and 2 reveal much about the statistical and substantive significance of the independent variables, the use of probit estimation makes it somewhat challenging to translate the statistical results into actual effects on public awareness. A brief example using Proposition 28 – a proposition that received moderate advertising and newspaper coverage – is useful in further illustrating the relationships found in this study. Figure 9 provides a more detailed look at the data presented in Figure 6, with

¹⁷Recall that there was no advertising for Propositions 21 and 23, and that Propositions 21 and 30/31 were only asked about after the ballot pamphlet had been mailed out, so some independent variables are missing for certain propositions.

the Field Poll survey periods shaded in gray. One can see that there was no advertising on this proposition until the middle of February, followed by a fairly steady stream of advertising in all markets. By the end of the second polling period, Sacramento market residents had been exposed to the most advertising, while Fresno residents received the fewest ads. The trends were somewhat different for newspaper coverage. Here, the information flow in three markets – Los Angeles, Sacramento, and San Diego – began much earlier, with people in these areas potentially exposed to almost ten stories on the proposition before the start of the early February poll. During the second February poll, one sees a clear divergence in coverage between San Diego (which experienced a surge in story volume); Los Angeles, San Francisco, and Sacramento (which all had similar levels of coverage); and Fresno (which received no stories about the proposition until after March 1).

Using the proposition-specific model from Table 2, predicted probabilities for awareness of Proposition 28 were generated for an ‘average’ (at the mean on all except for the informational variables) citizen of each media market under four conditions: no information, the mean level of advertising in that market, the mean level of ads plus the mean level of newspaper coverage, and the mean levels of ads and stories plus the ballot pamphlet. The results are displayed in Figure 10. The difference in magnitude between the advertising and newspaper effects are clear, with ads increasing awareness by only a few percentage points, and newspaper stories resulting in jumps of 15-20 points. The effect of the ballot pamphlet is in between the two, leading to an increase of about 5 points.

From Figure 10, and with all other factors held constant, one would expect to find the highest levels of awareness in San Diego and the lowest in Fresno, with the other three markets somewhere in between. Figure 11 displays the actual levels of awareness in each media market across the three survey periods. San Diego, which has the lowest level of awareness of Proposition 28 in the first survey, has the highest level awareness in the final polling period, having experienced a 25-point increase. As expected, Fresno residents were the least aware, lagging about 15 percentage points behind San Diego in the final poll. Notably, awareness was similar across the five media markets in the first February poll and then diverged in line with the newspaper coverage patterns observed in Figure 9. One might ask if the results for Los Angeles contradict expectations given that awareness levels are almost as low as in Fresno. However, this finding can be explained by a closer look at patterns in newspaper story volume. Looking at the second shaded survey period in Figure 9, one can see that newspaper coverage in Los Angeles started at a lower level, had been flat for quite some time, and began to rise later than in San Francisco or Sacramento. Given that most participants in the February/March poll were interviewed on February 28 or earlier, it is not surprising that Los Angeles residents would lag in awareness.

Overall, the example of Proposition 28 illustrates the major findings of this study. First, the information environment was to central in increasing Californians’ awareness of ballot propositions. With very few exceptions, increased exposure to newspaper coverage and advertising, and access to the ballot pamphlet were all associated with a greater probability of knowing that a proposition was on the ballot. However, the magnitude of the effect differed by the medium. Newspaper story volume had a greater effect than exposure to advertising, while the influence of the state ballot pamphlet varied by proposition. Despite these differences, all three sources had more consistent

effects across propositions than any of the political or demographic control variables, providing strong support to the idea that campaign-specific information flows can have measurable effects on the mass public.

4 Conclusion

The results of this study provide new insights into the study of information sources and the role of free and paid media in political campaigns. In an attempt to avoid some of the methodological challenges confronted in previous work, the design used here combines the measurement strengths of experimental research with the stronger external validity of data collected in the context of citizens' daily lives. As a result, this research offers an advance over previous efforts to compare the effects of different information sources, and puts forth the conclusion that newspapers, ads, and information mailed directly to voters all have an effect on the mass public.

On the other hand, the present research is not free from methodological issues. Most prominently, the Field Poll data did not include measures of respondents' political interest/knowledge or media use, making it impossible to bring these variables into the analysis aside from the use of years of education as a proxy. Ideally, polling firms will take the advice of Ridout et al. (2004) and begin to include brief question blocks about respondents' viewership of specific types of programs (and, I would add, readership of particular newspapers, internet sources, etc.) in order to facilitate the more effective use of geocoded data. The inclusion of local television news data, which were not available for this study, would also improve the external validity of the results, particularly given the popularity of this information source.

As with any study, it is important to note the boundaries on the generalizability of the results. Here, the focus was a ballot proposition election, a context in which voters typically begin with no knowledge of what the decision is, let alone prior attitudes about the available choices. In addition, such elections lack the abundance of partisan and other cues present in candidate elections.¹⁸ This paper also focused on awareness rather than opinions or anticipated vote decisions. If one were to replicate the above design in a candidate election with vote preference as the dependent variable, it is likely that the results for all information sources would be greatly reduced. This is not to say that newspapers, advertising, and the ballot pamphlet have no influence in such contexts, but rather that it is much more difficult to pull out such effects when the interaction with prior attitudes and predispositions is so great (Bartels 1993).

Yet the extraction of the differential effects of information sources on opinion formation and change is not impossible. Ballot proposition elections may offer valuable opportunities here as well. In the March 2000 election, advertising on all propositions except for Propositions 30 and 31 was one-sided. In other words, for each proposition, all ads were either for or against the proposed policy. Such an environment is ideal for measuring persuasion, since the expectations are much clearer than when a two-sided flow of information is present (Zaller 1992). Previous work has shown effects for advertising on aggregate vote outcomes in California ballot proposition elections (Stratmann 2006), but there has not yet been a study that has taken this analysis to

¹⁸Although, notably, voters often draw on their perceptions of which groups and individuals support a proposition in coming to a decision (Lupia 1994, Bowler & Donovan 1998, Gerber & Phillips 2003).

the individual level and included competing information sources. Given that the Field Poll includes opinion questions for propositions, such research is an obvious next step.

This study also leads to some normative implications for ballot proposition elections in particular and voter knowledge in general. The results presented above provide evidence for the idea that even within the same election cycle, not all citizens experience the same election. For example, people in the Fresno media market received very little newspaper coverage of any proposition and were typically exposed to fewer ads than those living in larger media markets. The latter is likely due to the need for political campaigns to maximize the impact of their financial resources – airing an advertisement in Los Angeles or even San Diego will reach far more people than buying time in Fresno – but the differences in levels of newspaper coverage are more troubling. Certainly major, large-market newspapers such as the *Los Angeles Times* receive far more advertising revenue and thus can afford the staff and the pages needed for more extensive coverage of state issues, yet it is not always the case that the smallest market provides the least amount of news (Just, Crigler, Alger, Cook, Kern & West 1996, p. 92). Fresno’s coverage was so far below the next-smallest market, San Diego, that it leads one to question whether voters in the former market had an equal opportunity to participate in decision-making regarding the propositions on the March 2000 ballot.

Recall the above discussion of the role of awareness in ballot proposition elections: in order for voters to come to a decision on a proposition, they must first know that a decision is to be made; otherwise, the tendency is to vote for the status quo or abstain (Bowler, Donovan & Happ 1992, Bowler & Donovan 1994). If it is the case that voters in some media markets are greatly disadvantaged in their access to information about propositions, election results may be more skewed toward the status quo than they would if all citizens were equally informed. Fortunately, this study shows significant effects for the one information source that is provided to all voters: the state ballot pamphlet. It is likely, given the results presented here, that the pamphlet has a significant role to play in decreasing information inequities in proposition elections.

On the other hand, no resource similar to the ballot pamphlet exists for candidate-based elections. The discrepancies in advertising volume between swing and non-swing states in presidential elections have been noted by political scientists, but this study suggests that the print media may be more central to informing voters. In addition, extreme differences in both advertising and newspaper coverage may exist between media markets in state-level elections, such as those for governor and senator. In other words, it may not be that the *medium* matters as much as the *media market* matters.

5 Tables and Figures

Figure 1: Awareness of California Ballot Propositions, December 1999-March 2000

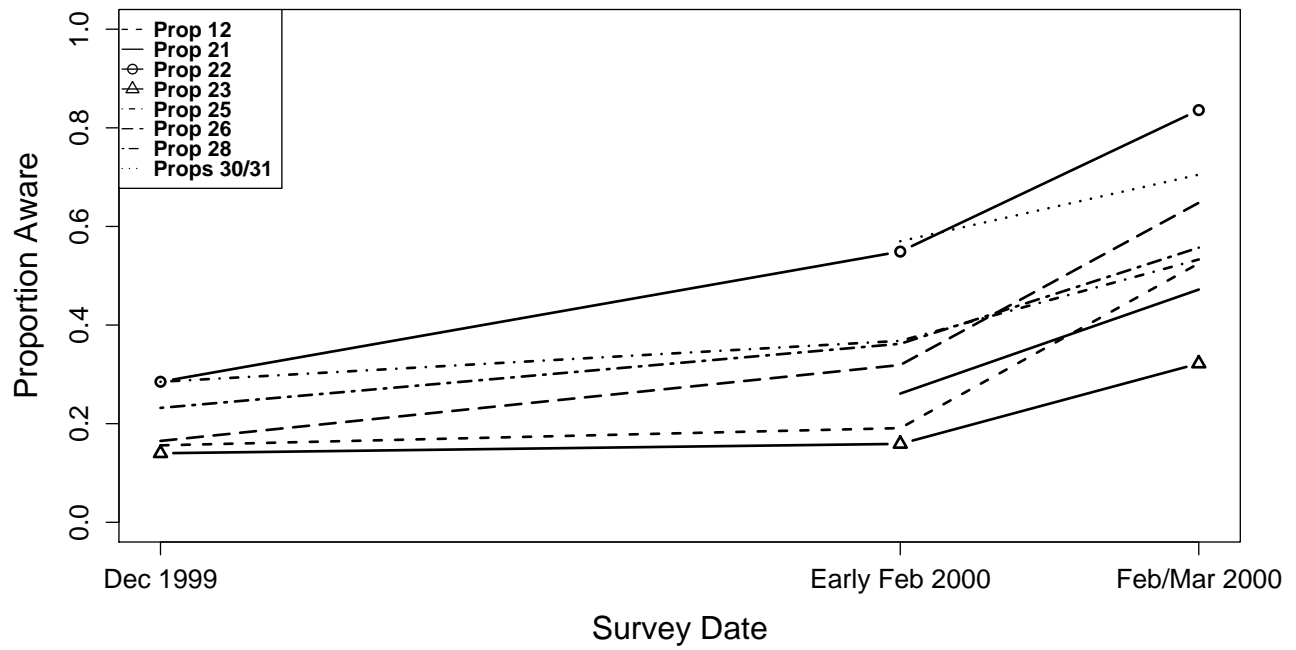


Figure 2: Television Advertising and Newspaper Coverage about Proposition 12 (Environmental Programs) by Media Market, Late October 1999-March 2000

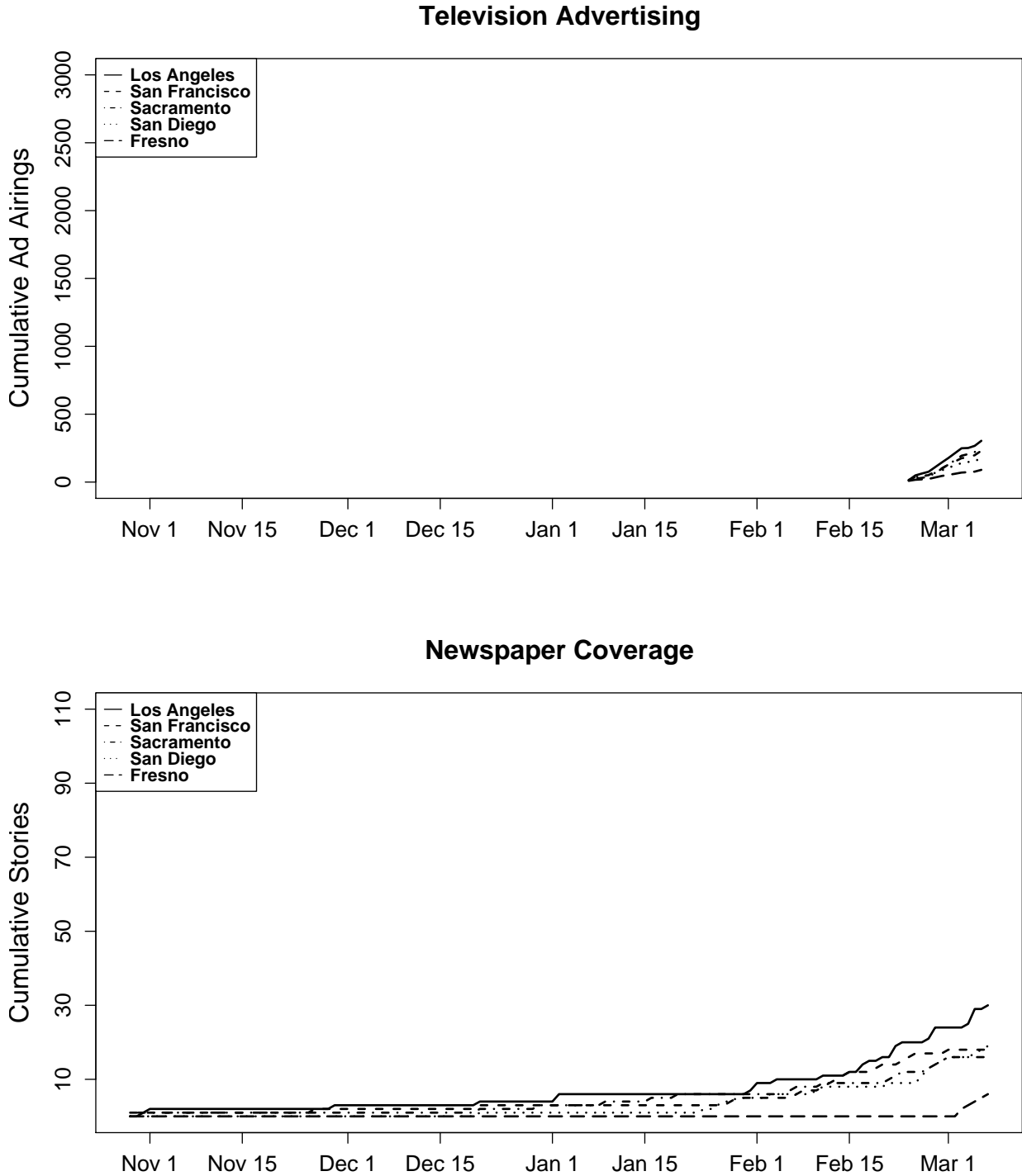


Figure 3: Television Advertising and Newspaper Coverage about Proposition 22 (Same-Sex Marriage) by Media Market, Late October 1999-March 2000

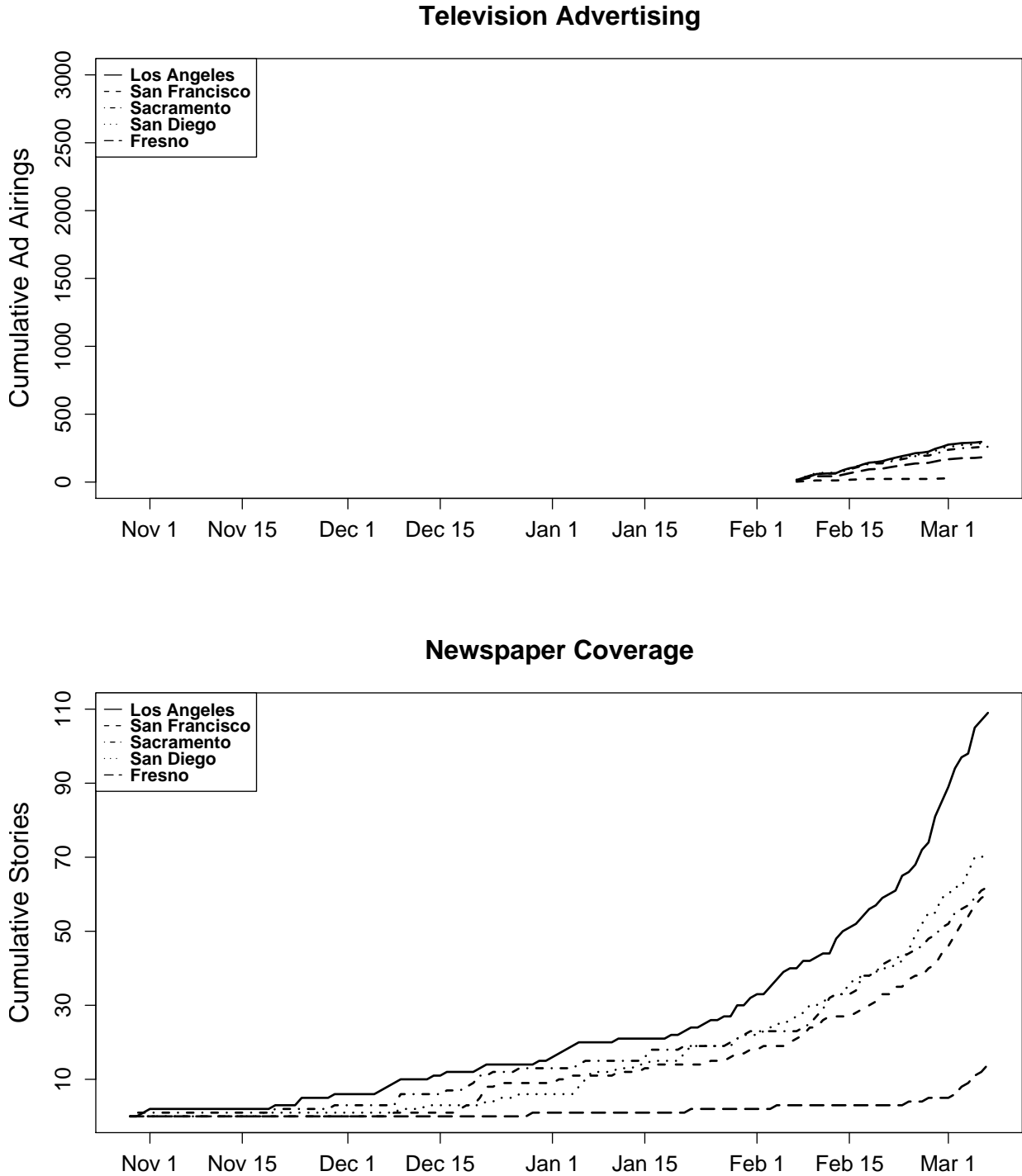


Figure 4: Television Advertising and Newspaper Coverage about Proposition 25 (Campaign Finance) by Media Market, Late October 1999-March 2000

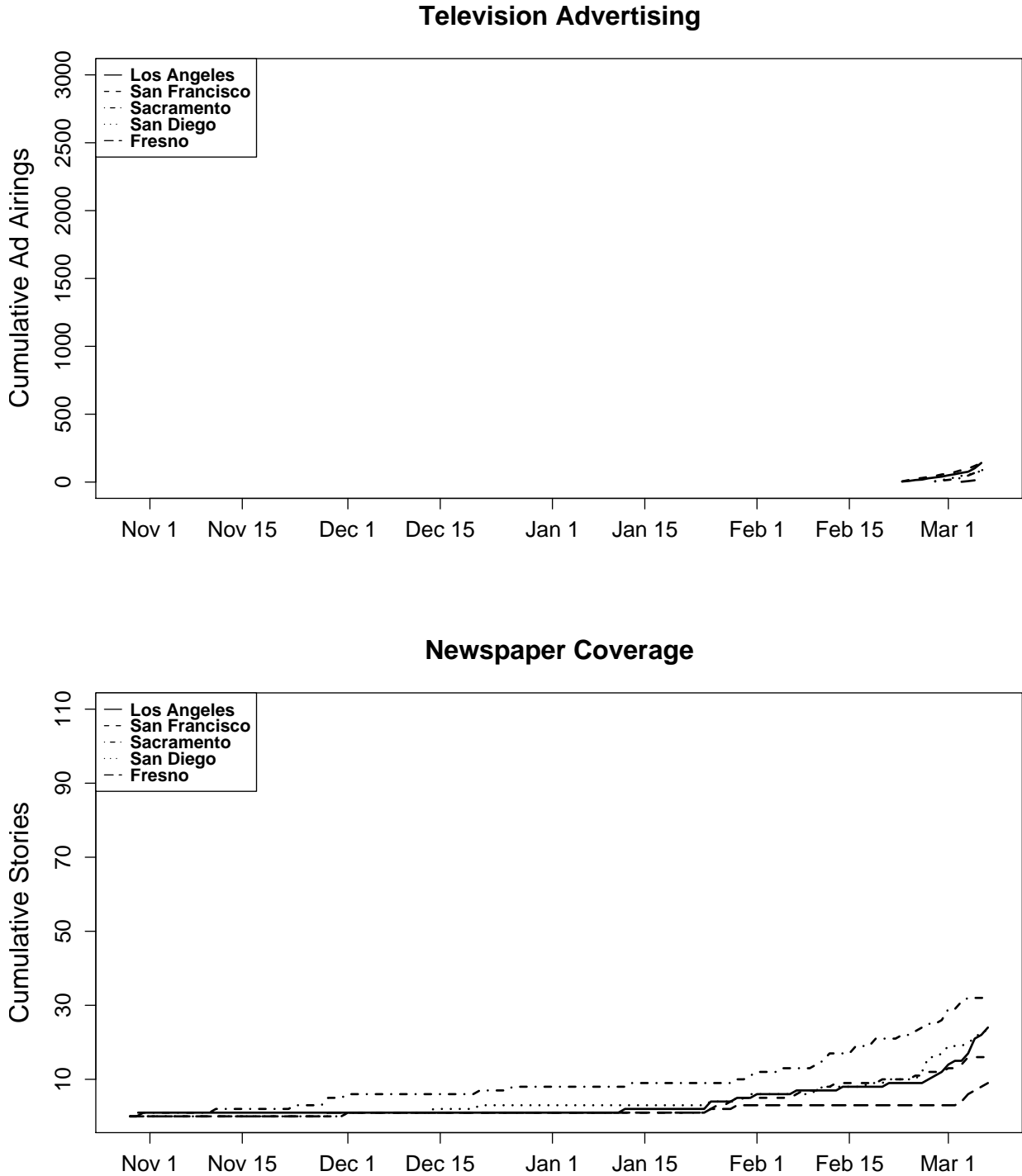


Figure 5: Television Advertising and Newspaper Coverage about Proposition 26 (School Bonds) by Media Market, Late October 1999-March 2000

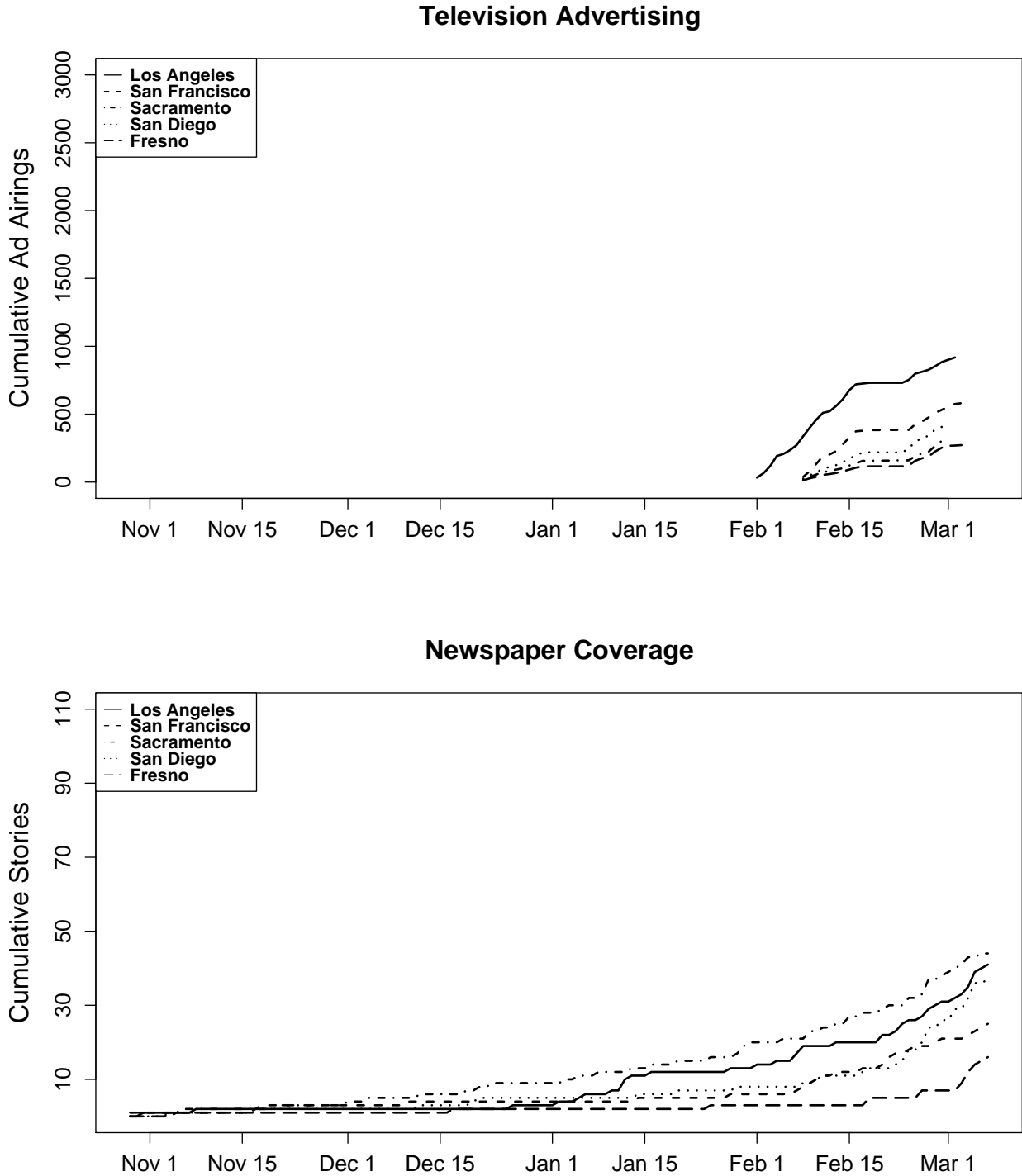


Figure 6: Television Advertising and Newspaper Coverage about Proposition 28 (Cigarette Tax Repeal) by Media Market, Late October 1999-March 2000

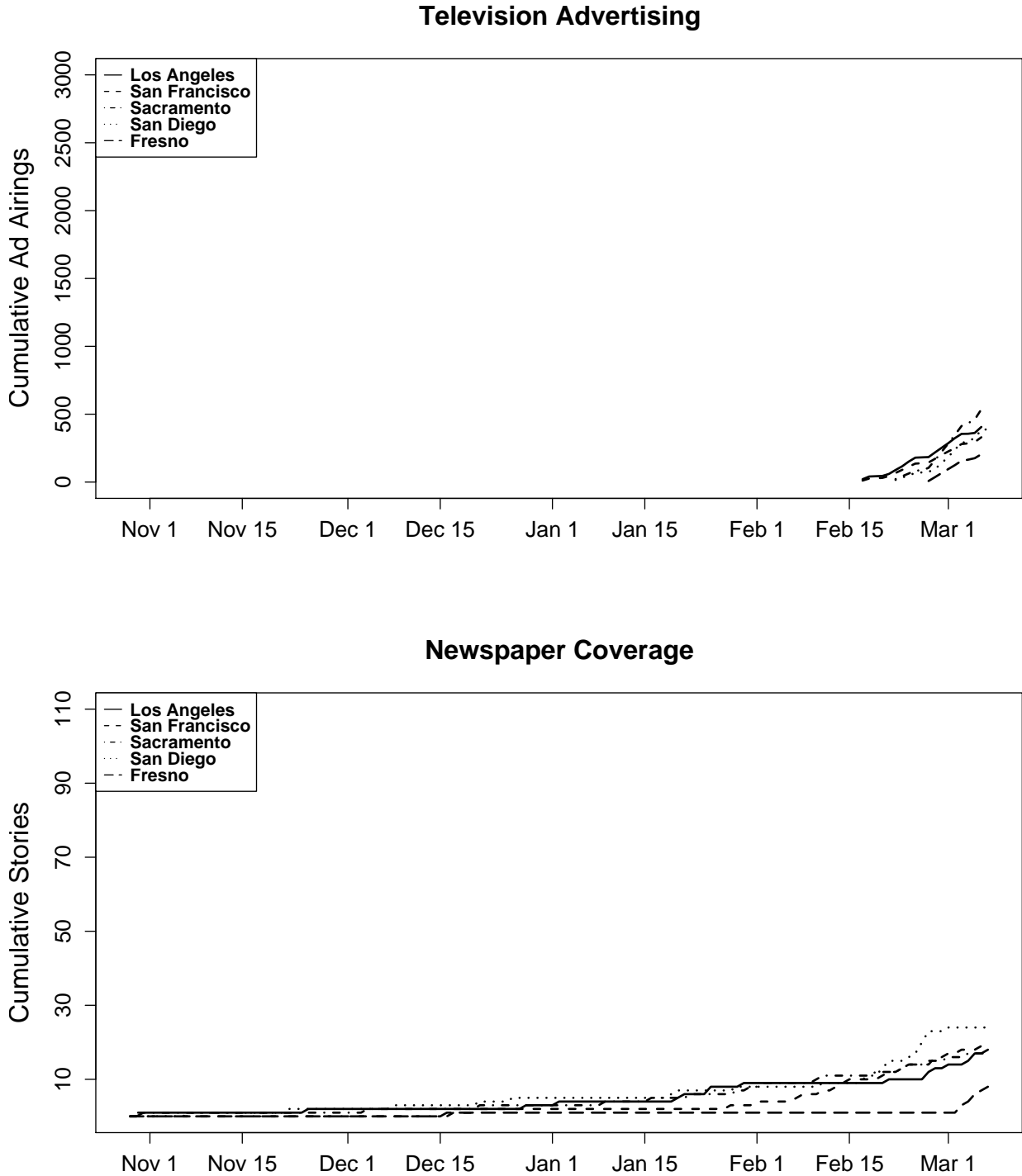


Figure 7: Television Advertising and Newspaper Coverage about Propositions 30 and 31 (Insurance Claims) by Media Market, Late October 1999-March 2000

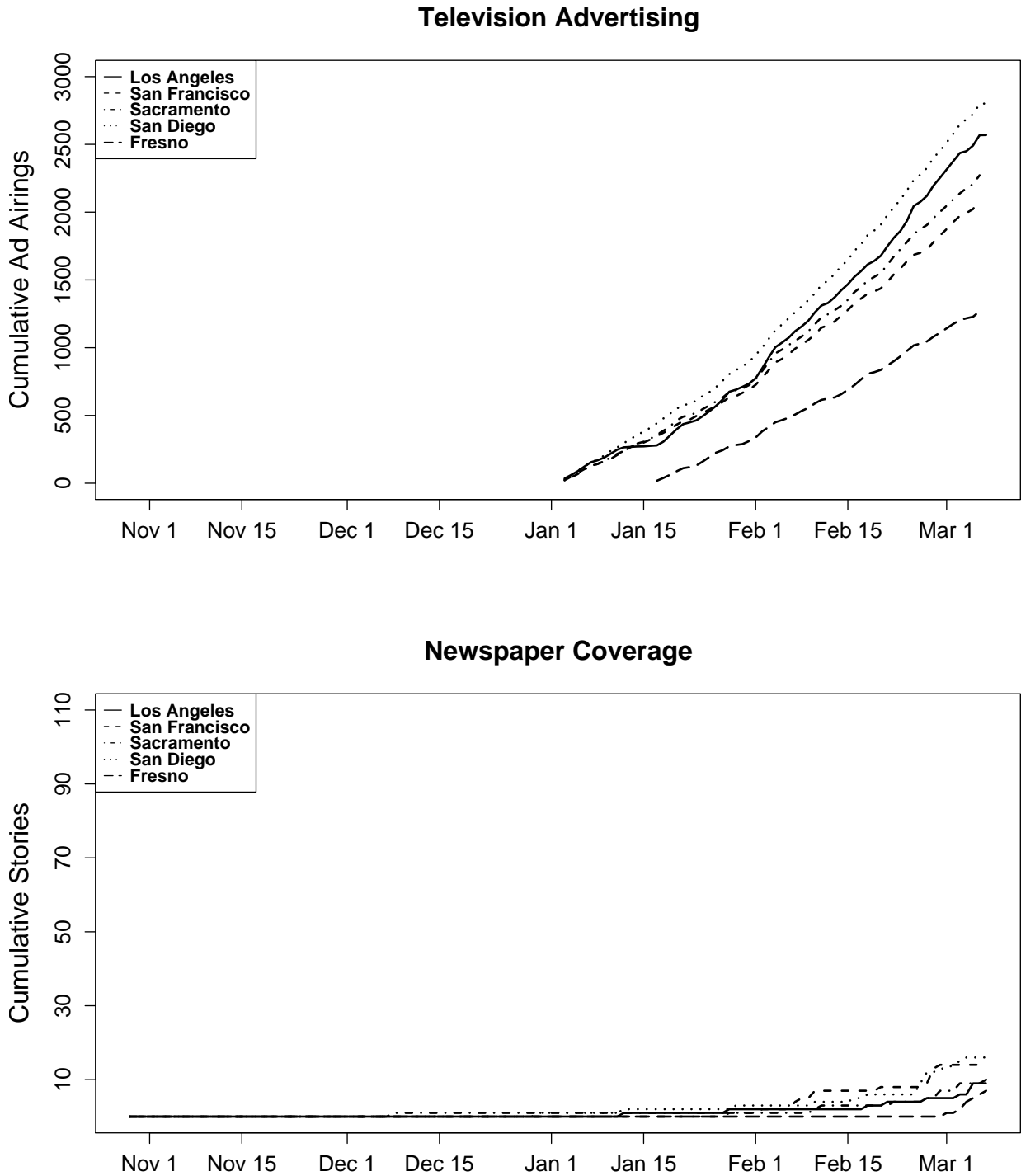


Figure 8: Newspaper Coverage of Propositions 21 (Juvenile Justice) and 23 (None of the Above) by Media Market, Late October 1999-March 2000

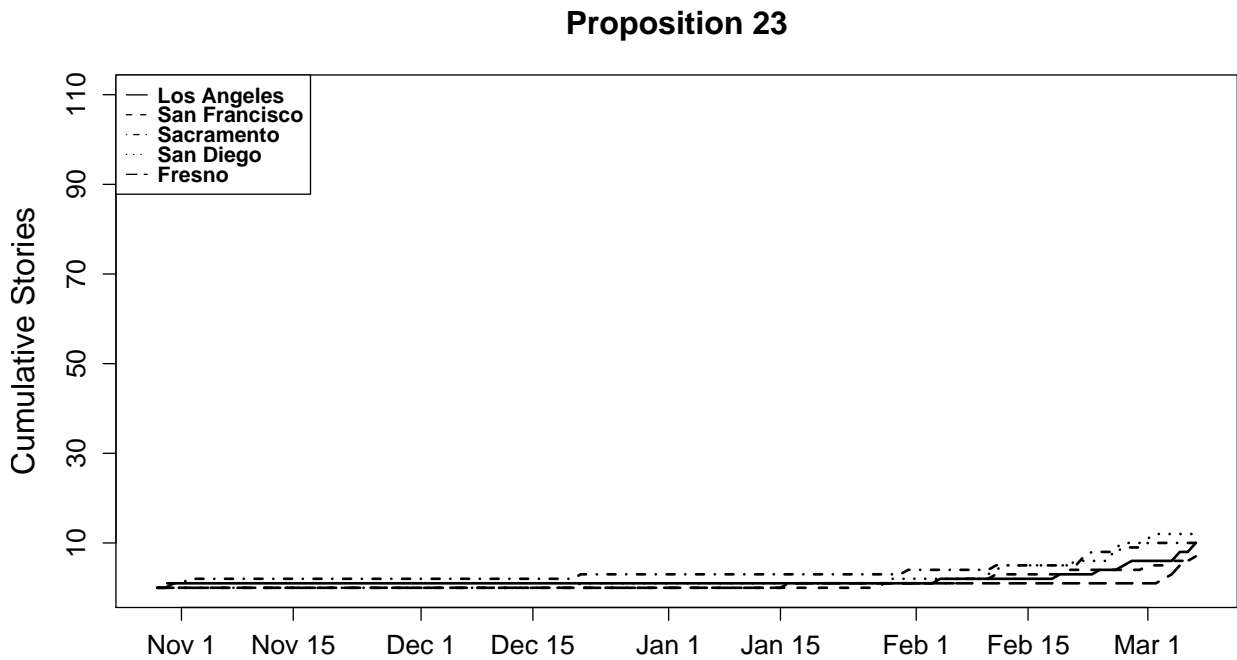
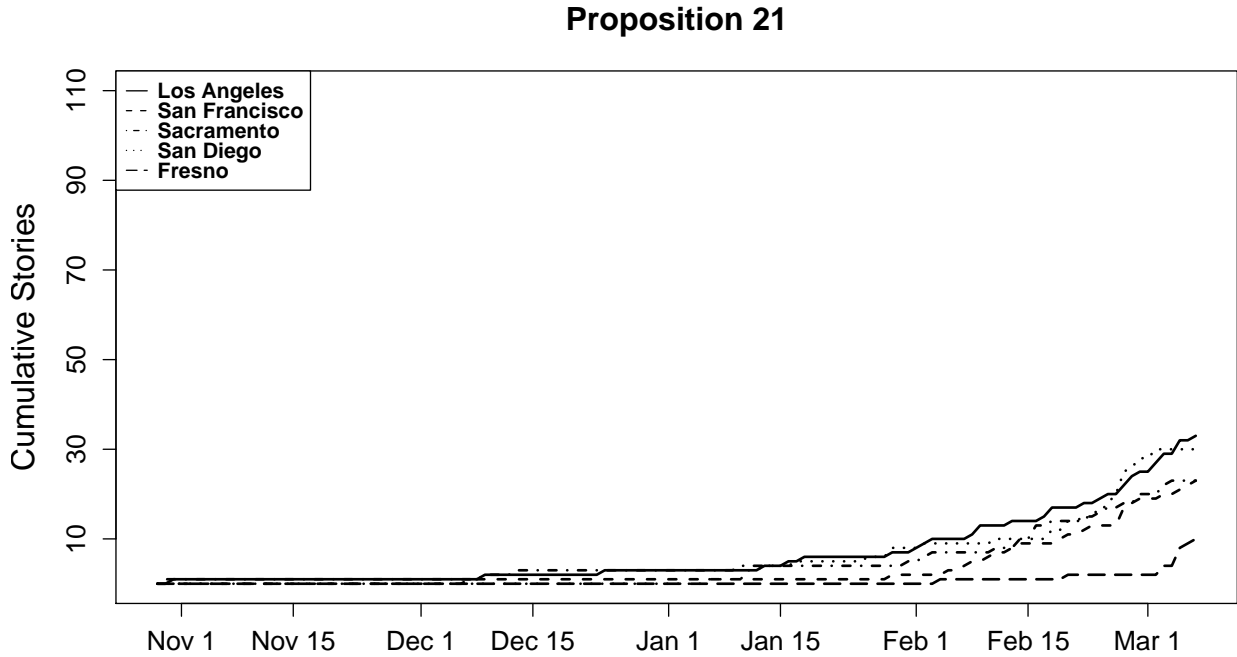


Table 1: Factors Influencing Awareness of California Ballot Propositions (Probit Estimates)

Variable	Coefficient	(Std. Err.)
Ads (Tens)	0.005***	(0.001)
Stories	0.020***	(0.002)
Pamphlet	0.459***	(0.053)
Education	0.025***	(0.008)
Democrat	-0.086	(0.057)
Republican	-0.025	(0.061)
Liberal	0.054*	(0.028)
cons	0.031	(0.025)
Income	0.000	(0.001)
Age	0.005***	(0.001)
Female	-0.139***	(0.037)
Hispanic	-0.147**	(0.058)
Black	-0.165**	(0.076)
Asian	-0.146	(0.107)
Other Race	0.144	(0.106)
Prop. 12	0.149***	(0.057)
Prop. 21	0.183***	(0.054)
Prop. 22	0.460***	(0.067)
Prop. 25	0.478***	(0.051)
Prop. 26	0.191***	(0.053)
Prop. 28	0.421***	(0.046)
Props. 30/31	0.398***	(0.096)
Intercept	-1.684***	(0.151)
N		13188
$\chi^2_{(22)}$		1458.036
Significance levels : * : p<0.10 ** : p<0.05 *** : p<0.01		

Table 2: Factors Influencing Awareness of California Ballot Propositions, by Proposition (Probit Estimates)

	Prop12	Prop21	Prop22	Prop23	Prop25	Prop26	Prop28	Prop30
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ads (Tens)	.026 (.031)		.047 (.005)***		.117 (.049)**	.007 (.002)***	.011 (.006)*	.003 (.0009)***
Stories	.044 (.009)***	.021 (.007)***	-.001 (.003)	.082 (.024)***	.039 (.011)***	.021 (.006)***	.049 (.011)***	.017 (.020)
Pamphlet	.310 (.123)**		.879 (.104)***	.216 (.110)**	.134 (.113)	.518 (.105)***	.195 (.112)*	
Education	-.002 (.017)	.016 (.017)	.056 (.014)***	.047 (.019)**	-.013 (.016)	.039 (.013)***	.023 (.013)*	.017 (.015)
Democrat	-.002 (.122)	-.122 (.123)	-.080 (.095)	-.293 (.121)**	-.171 (.114)	-.078 (.091)	-.070 (.089)	.052 (.104)
Republican	-.008 (.129)	-.275 (.131)**	-.007 (.105)	-.246 (.132)*	.037 (.121)	.103 (.098)	.012 (.095)	.023 (.113)
Liberal	-.022 (.061)	.174 (.061)***	.153 (.051)***	.180 (.069)***	.075 (.063)	.042 (.047)	.019 (.046)	-.107 (.052)**
Conservative	-.028 (.059)	.073 (.058)	.128 (.044)***	.091 (.061)	.007 (.054)	-.022 (.043)	.050 (.043)	-.036 (.049)
Income	-.003 (.002)*	.001 (.002)	.003 (.001)**	.0009 (.002)	.0008 (.002)	.002 (.001)*	-.0005 (.001)	-.002 (.001)
Age	.003 (.003)	.003 (.003)	.002 (.002)	.004 (.003)	.009 (.002)***	.007 (.002)***	.002 (.002)	.008 (.002)***
Female	-.147 (.080)*	-.236 (.081)***	-.004 (.063)	-.367 (.088)***	-.093 (.077)	-.081 (.061)	-.228 (.059)***	-.101 (.068)
Hispanic	-.158 (.137)	-.017 (.129)	-.451 (.097)***	-.043 (.141)	.210 (.119)*	-.171 (.097)*	-.128 (.094)	-.163 (.103)
Black	-.013 (.164)	-.0008 (.158)	-.544 (.127)***	-.446 (.204)**	.229 (.163)	-.147 (.131)	-.203 (.125)	-.121 (.136)
Asian	-.223 (.235)	-.205 (.249)	-.167 (.175)	-.306 (.221)	.011 (.197)	.020 (.168)	-.114 (.163)	-.325 (.173)**
Other Race	.065 (.239)	.329 (.248)	-.022 (.196)	.005 (.264)	.093 (.224)	.189 (.172)	.134 (.178)	.328 (.215)
Const.	-1.043 (.316)***	-.793 (.322)**	-1.670 (.254)***	-1.757 (.330)***	-.904 (.298)***	-2.070 (.250)***	-1.052 (.239)***	-.545 (.275)**
Obs.	1289	1114	2294	1284	1284	2124	2124	1675
χ^2 statistic	116.238	35.395	463.611	80.471	81.258	294.758	137.968	65.52

Significance levels : * : p<0.10 ** : p<0.05 *** : p<0.01

Data: California Field Poll

Figure 9: Television Advertising and Newspaper Coverage about Proposition 28 (Cigarette Tax Repeal) by Media Market, January-March 2000

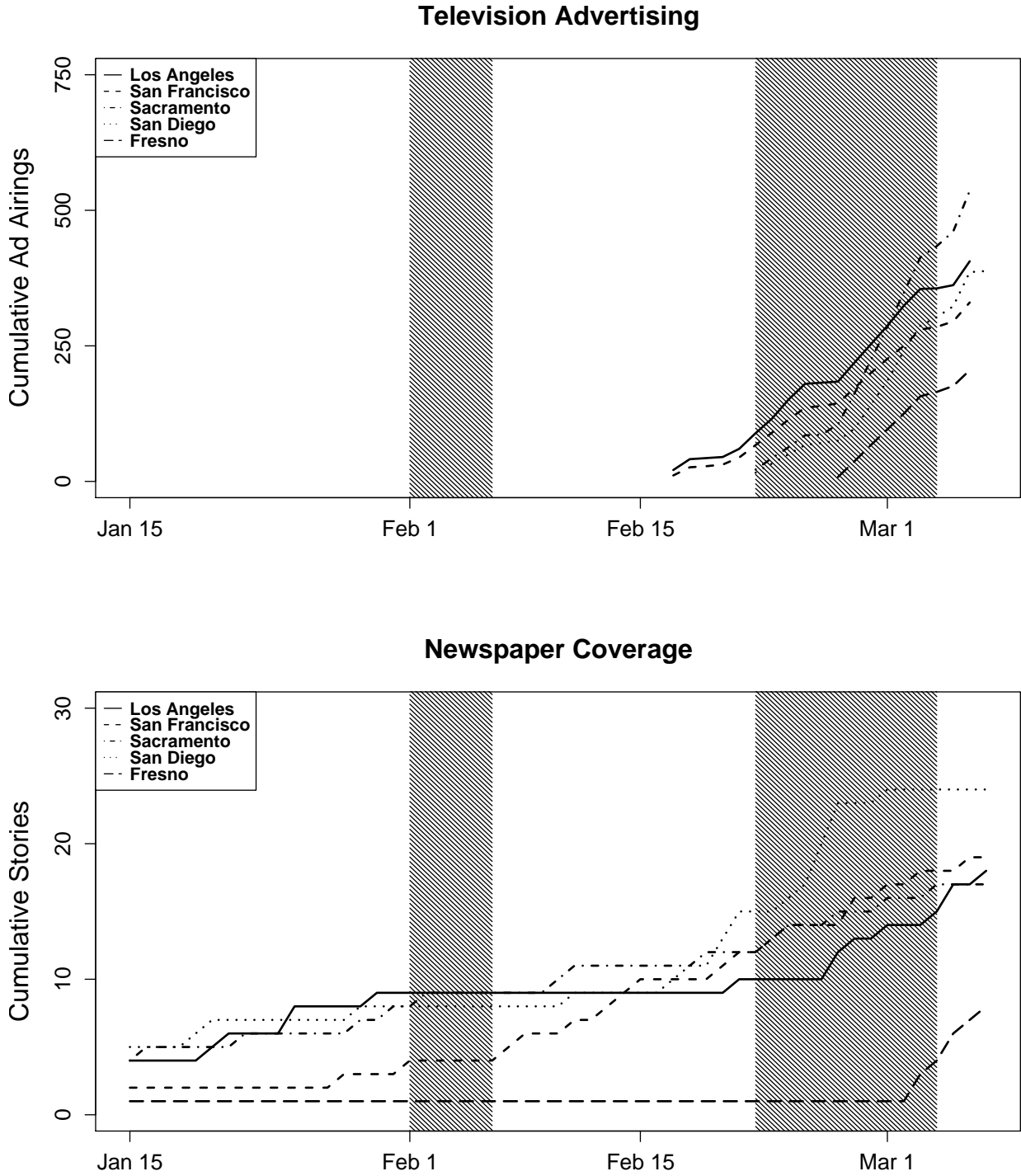


Figure 10: Predicted Probability of Awareness of Proposition 28 (Cigarette Tax Repeal) by Information Type and Media Market

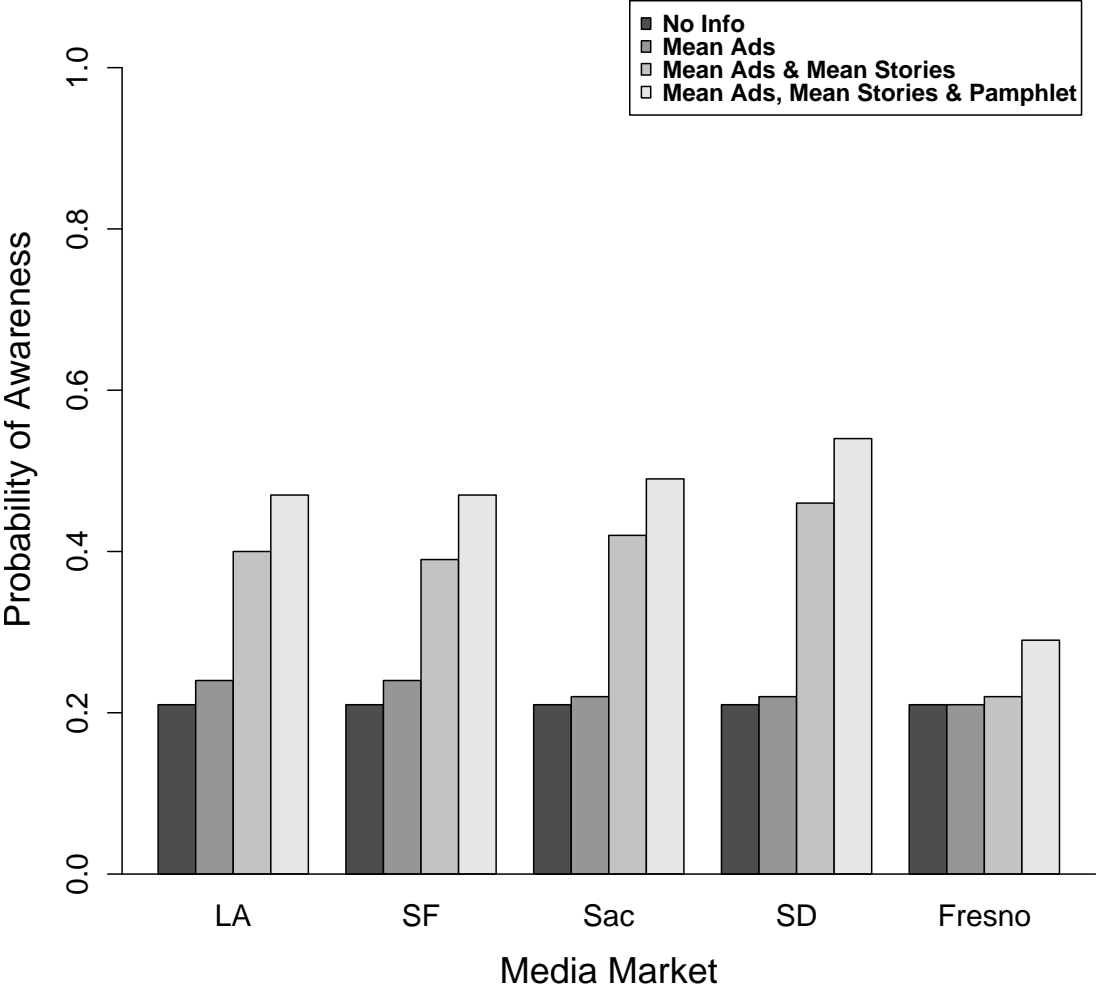
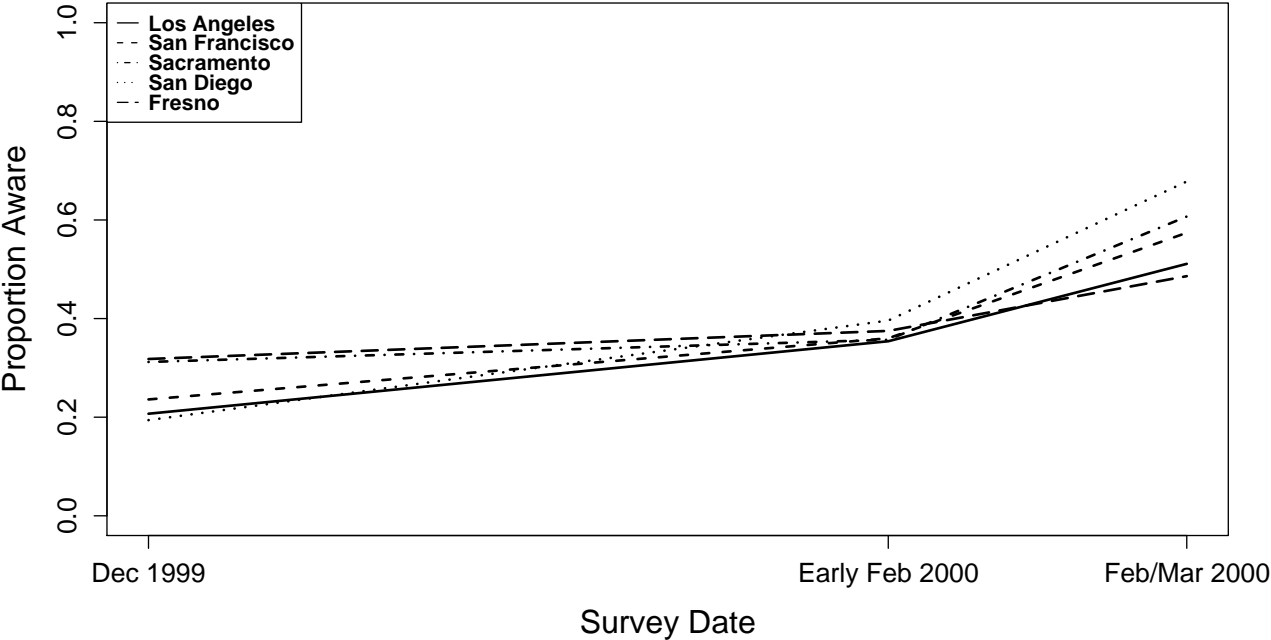


Figure 11: Actual Awareness of Proposition 28 (Cigarette Tax Repeal) by Media Market, Late October 1999-March 2000



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